

Appln. No. 10/033,875

Docket No. 304-773

Amendment

Reply to Office Action dated October 28, 2003

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Cancelled)

2. (Previously presented) Device according to claim 4, wherein said device for determining the temperature of said measuring element is at least one sensor, said sensor being placed below said hotplate.

3. (Original) Device according to claim 2, wherein said device for determining the temperature of said measuring element is an infrared sensor.

4. (Currently amended) A device for determining the temperature of a cooking vessel, the cooking vessel having an underside and being placeable on a hotplate of a heating appliance, wherein at least one heating zone is defined on said hotplate and said cooking vessel is placeable on said heating zone, comprising:

at least one flat measuring element, said flat measuring element having a top surface for contact with the underside of the cooking vessel, and said flat measuring element being placed on the top of said hotplate; and

a device for determining the temperature of said measuring element through said hotplate from below said hotplate with at least one infrared sensor,

wherein said at least one measuring element is formed by a material coating applied in a self-adhesive manner to said top of said hotplate,

~~wherein the at least one measuring element is separate from the device for determining the temperature of the measuring element,~~

~~wherein an underside of the at least one measuring element is in a visible connection with the device for determining the temperature of the measuring element,~~
and

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17 ~~wherein the determination of the measuring element temperature takes place from~~
18 ~~below through the hotplate and~~
19 wherein said measuring element has an underside with a defined emission
20 capacity for heat radiation determined by the nature of the measuring element, wherein
21 the hotplate material has an adequate transmission for the heat radiation used for the
22 measurement.

1 5. (Previously presented) Device according to claim 4, wherein said material
2 coating is constituted by a printed-on color coating.

1 6. (Currently amended) A device for determining the temperature of a cooking
2 vessel, the cooking vessel having an underside and being placeable on a hotplate of a
3 heating appliance, wherein at least one heating zone is defined on said hotplate and said
4 cooking vessel is placeable on said heating zone, comprising:
5 at least one flat measuring element, said flat measuring element having a top
6 surface for contact with the underside of the cooking vessel, and said flat measuring
7 element being placed on the top of said hotplate; and
8 a device for determining the temperature of said measuring element through said
9 hotplate from below said hotplate with at least one infrared sensor,
10 wherein said at least one measuring element is formed by a separate and thin
11 material portion fixed to said top of said hotplate,
12 ~~wherein the at least one measuring element is separate from the device for~~
13 ~~determining the temperature of the measuring element,~~
14 ~~wherein an underside of the at least one measuring element is in a visible~~
15 ~~connection with the device for determining the temperature of the measuring element,~~
16 and
17 ~~wherein the determination of the measuring element temperature takes place from~~
18 ~~below through the hotplate and~~
19 wherein said at least one measuring element has an underside with a defined
20 emission capacity for heat radiation determined by the nature of the measuring element.

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21 wherein the hotplate material has an adequate transmission for the heat radiation used
22 for the measurement.

1 7. (Original) Device according to claim 6, wherein said measuring element is a
2 metal foil.

1 8. (Original) Device according to claim 6, wherein said measuring element is
2 bonded to said top of said hotplate.

9. (Cancelled)

1 10. (Previously presented) Device according to claim 4, wherein said top surface
2 of said measuring element projects between 0.05 and 0.15 mm over said top of said
3 hotplate.

1 11. (Currently amended) A device for determining the temperature of a cooking
2 vessel, the cooking vessel having an underside and being placeable on a hotplate of a
3 heating appliance, wherein at least one heating zone is defined on said hotplate and said
4 cooking vessel is placeable on said heating zone, comprising:

5 at least one flat measuring element, said flat measuring element having a top
6 surface for contact with the underside of the cooking vessel, and said flat measuring
7 element being placed on the top of said hotplate; and

8 a device for determining the temperature of said measuring element through said
9 hotplate from below said hotplate with at least one infrared sensor,

10 wherein several measuring elements are provided in the vicinity of said heating
11 zone,

12 ~~wherein the measuring elements are separate from the device for determining the~~
13 ~~temperature of the measuring elements,~~

14 ~~wherein undersides of the measuring elements are in a visible connection with the~~
15 ~~device for determining the temperature of the measuring elements, and~~

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16 ~~wherein the determination of the measuring element temperature takes place from~~
17 ~~below through the hotplate and~~
18 wherein said measuring elements each have an underside with a defined emission
19 capacity for heat radiation determined by the nature of the measuring element, wherein
20 the hotplate material has an adequate transmission for the heat radiation used for the
21 measurement.

22

1 12. (Previously presented) Device according to claim 11, wherein three said
2 measuring elements are provided in the vicinity of said heating zone in a triangular
3 arrangement.

1 13. (Currently amended) A device for determining the temperature of a cooking
2 vessel, the cooking vessel having an underside and being placeable on a hotplate of a
3 heating appliance, wherein at least one heating zone is defined on said hotplate and said
4 cooking vessel is placeable on said heating zone, comprising:

5 at least one flat measuring element, said flat measuring element having a top
6 surface for contact with the underside of the cooking vessel, and said flat measuring
7 element being placed on the top of said hotplate; and

8 a device for determining the temperature of said measuring element through said
9 hotplate from below said hotplate with at least one infrared sensor.

10 wherein said heating zone has a center and said at least one measuring element is
11 positioned eccentrically to said center,

12 ~~wherein the at least one measuring element is separate from the device for~~
13 ~~determining the temperature of the measuring element,~~

14 ~~wherein an underside of the at least one measuring element is in a visible~~
15 ~~connection with the device for determining the temperature of the measuring element,~~
16 ~~and~~

17 ~~wherein the determination of the measuring element temperature takes place from~~
18 ~~below through the hotplate and~~

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19 wherein said at least one measuring element has an underside with a defined
20 emission capacity for heat radiation determined by the nature of the measuring element,
21 wherein the hotplate material has an adequate transmission for the heat radiation used
22 for the measurement.

1 14. (Currently amended) A device for determining the temperature of a cooking
2 vessel, the cooking vessel having an underside and being placeable on a hotplate of a
3 heating appliance, wherein at least one heating zone is defined on said hotplate and said
4 cooking vessel is placeable on said heating zone, comprising:

5 at least one flat measuring element, said flat measuring element having a top
6 surface for contact with the underside of the cooking vessel, and said flat measuring
7 element being placed on the top of said hotplate; and

8 a device for determining the temperature of said measuring element through said
9 hotplate from below said hotplate with at least one infrared sensor,

10 wherein said heating zone has a center and none of said at least one measuring
11 elements is positioned in said center,

12 ~~wherein the at least one measuring element is separate from the device for~~
13 ~~determining the temperature of the measuring element,~~

14 ~~wherein an underside of the at least one measuring element is in a visible~~
15 ~~connection with the device for determining the temperature of the measuring element,~~
16 ~~and~~

17 ~~wherein the determination of the measuring element temperature takes place from~~
18 ~~below through the hotplate and~~

19 wherein said at least one measuring element has an underside with a defined
20 emission capacity for heat radiation determined by the nature of the measuring element,
21 wherein the hotplate material has an adequate transmission for the heat radiation used
22 for the measurement.

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1 15. (Previously presented) Device according to claim 4, wherein said measuring
2 element is at least partially made of a good heat conducting material with a low heat
3 capacity.

16-17. (Cancelled)

1 18. (Previously presented) An electric heating appliance having a hotplate, with at
2 least one heating zone defined on said hotplate, said heating zone being heatable by a
3 heating device, and said heating device being positioned below said hotplate, said
4 electric heating appliance further including a device for determining the temperature of a
5 cooking vessel placed on said heating zone, wherein said device for determining the
6 temperature of said cooking vessel is constructed in accordance with claim 4.

19. (Cancelled)

1 20. (Currently amended) A method for determining the temperature of a cooking
2 vessel placed on a hotplate of a heating appliance, wherein at least one heating zone is
3 defined on said hotplate, said cooking vessel having an underside and with said
4 underside being placed on said heating zone, wherein the method comprises the
5 following steps:
6 providing at least one flat measuring element on said heating zone for contact with
7 said underside of said cooking vessel, said flat measuring element having a top surface;
8 setting down said cooking vessel on said heating zone in such a way that said
9 underside of said cooking vessel comes into contact with said top of said measuring
10 element; and
11 determining the temperature of said measuring element through said hotplate from
12 below said hotplate with at least one infrared sensor,
13 wherein said at least one measuring element is formed by a separate and thin
14 material portion fixed to said top of said hotplate,

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15 ~~wherein the at least one measuring element is separate from the device for~~
16 ~~determining the temperature of the measuring element,~~
17 ~~wherein an underside of the at least one measuring element is in a visible~~
18 ~~connection with the device for determining the temperature of the measuring element,~~
19 ~~and~~
20 ~~wherein the determining of the measuring element temperature takes place from~~
21 ~~below through the hotplate and~~
22 wherein said at least one measuring element has an underside with a defined
23 emission capacity for heat radiation determined by the nature of the measuring element.
24 wherein the hotplate material has an adequate transmission for the heat radiation used
25 for the measurement.

1 21. (Previously presented) Method according to claim 20, wherein said
2 temperature of said measuring element is measured from below and through said
3 hotplate.

1 22. (Previously presented) Method according to claim 21, wherein said measuring
2 element has an underside, said underside emitting heat radiation, said heat radiation
3 being emitted through said hotplate, said heat radiation being measured and from this
4 measurement said temperature of said measuring element is determined.

1 23-24. (Cancelled)

1 25. (Previously presented) Device according to claim 6, wherein said top surface
2 of said measuring element projects between 0.05 and 0.15 mm over said top of said
3 hotplate.

1 26. (Previously presented) Device according to claim 6, wherein several
2 measuring elements are provided in the vicinity of said heating zone.

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1 27. (Previously presented) Device according to claim 6, wherein said measuring
2 element is at least partially made of a good heat conducting material with a low heat
3 capacity.

1 28. (Previously presented) Device according to claim 6, wherein said hotplate is at
2 least partially made of a material with a good radiation transparency for infrared radiation,
3 said infrared radiation at least ranging from a temperature range between room
4 temperature and approximately 250°C to 300°C.

1 29. (Previously presented) An electric heating appliance having a hotplate, with at
2 least one heating zone defined on said hotplate, said heating zone being heatable by a
3 heating device, and said heating device being positioned below said hotplate, said
4 electric heating appliance further including a device for determining the temperature of a
5 cooking vessel placed on said heating zone, wherein said device for determining the
6 temperature of said cooking vessel is constructed in accordance with claim 6.

1 30-31. (Cancelled)

1 32. (Previously presented) Device according to claim 11, wherein said at least
2 one measuring element is formed by a material coating applied in a self-adhesive manner
3 to said top of said hotplate.

1 33. (Previously presented) Device according to claim 32, wherein said material
2 coating is constituted by a printed-on color coating.

1 34. (Previously presented) Device according to claim 11, wherein said at least
2 one measuring element is formed by a separate and thin material portion fixed to said top
3 of said hotplate.

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1 35. (Previously presented) Device according to claim 34, wherein said measuring
2 element is a metal foil.

1 36. (Previously presented) Device according to claim 34, wherein said measuring
2 element is bonded to said top of said hotplate.

1 37. (Previously presented) Device according to claim 11, wherein said heating
2 zone has a center and at least one said measuring element is positioned eccentrically to
3 said center.

1 38. (Previously presented) Device according to claim 11, wherein said heating
2 zone has a center and none of said at least one measuring elements is positioned in said
3 center.

1 39. (Previously presented) Device according to claim 11, wherein said measuring
2 element is at least partially made of a good heat conducting material with a low heat
3 capacity.

1 40. (Previously presented) An electric heating appliance having a hotplate, with at
2 least one heating zone defined on said hotplate, said heating zone being heatable by a
3 heating device, and said heating device being positioned below said hotplate, said
4 electric heating appliance further including a device for determining the temperature of a
5 cooking vessel placed on said heating zone, wherein said device for determining the
6 temperature of said cooking vessel is constructed in accordance with claim 11.

1 41-42. (Cancelled)

1 43. (Previously presented) Device according to claim 13, wherein said at least
2 one measuring element is formed by a material coating applied in a self-adhesive manner
3 to said top of said hotplate.

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1 44. (Previously presented) Device according to claim 43, wherein said material
2 coating is constituted by a printed-on color coating.

1 45. (Previously presented) Device according to claim 13, wherein several
2 measuring elements are provided in the vicinity of said heating zone.

1 46. (Previously presented) Device according to claim 45, wherein three said
2 measuring elements are provided in the vicinity of said heating zone in a triangular
3 arrangement.

1 47. (Previously presented) Device according to claim 13, wherein none of said at
2 least one measuring elements is positioned in said center.

1 48. (Previously presented) Device according to claim 13, wherein said measuring
2 element is at least partially made of a good heat conducting material with a low heat
3 capacity.

1 49. (Previously presented) An electric heating appliance having a hotplate, with at
2 least one heating zone defined on said hotplate, said heating zone being heatable by a
3 heating device, and said heating device being positioned below said hotplate, said
4 electric heating appliance further including a device for determining the temperature of a
5 cooking vessel placed on said heating zone, wherein said device for determining the
6 temperature of said cooking vessel is constructed in accordance with claim 13.

1 50-51. (Cancelled)

1 52. (Previously presented) Device according to claim 14, wherein said at least
2 one measuring element is formed by a material coating applied in a self-adhesive manner
3 to said top of said hotplate.

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1 53. (Previously presented) Device according to claim 52, wherein said material
2 coating is constituted by a printed-on color coating.

1 54. (Previously presented) Device according to claim 14, wherein said at least
2 one measuring element is formed by a separate and thin material portion fixed to said top
3 of said hotplate.

1 55. (Previously presented) Device according to claim 14, wherein several
2 measuring elements are provided in the vicinity of said heating zone.

1 56. (Previously presented) Device according to claim 55, wherein three said
2 measuring elements are provided in the vicinity of said heating zone in a triangular
3 arrangement.

1 57. (Previously presented) Device according to claim 14, wherein said measuring
2 element is at least partially made of a good heat conducting material with a low heat
3 capacity.

1 58. (Currently amended) A method for determining the temperature of a cooking
2 vessel placed on a hotplate of a heating appliance, wherein at least one heating zone is
3 defined on said hotplate, said cooking vessel having an underside and with said
4 underside being placed on said heating zone, wherein the method comprises the
5 following steps:
6 providing at least one flat measuring element on said heating zone for contact with
7 said underside of said cooking vessel, said flat measuring element having a top surface;
8 setting down said cooking vessel on said heating zone in such a way that said
9 underside of said cooking vessel comes into contact with said top of said measuring
10 element; and

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- 11 d termination of the temperature of said measuring element through said hotplate
12 from below said hotplate with at least one infrared sensor.
13 wherein several measuring elements are provided in the vicinity of said heating
14 zone,
15 ~~wherein the measuring elements are separate from the device for determining the~~
16 ~~temperature of the measuring elements,~~
17 ~~wherein undersides of the measuring elements are in a visible connection with the~~
18 ~~device for determining the temperature of the measuring element, and~~
19 ~~wherein the determination of the measuring element temperature takes place from~~
20 ~~below through the hotplate~~
21 wherein said measuring elements each have an underside with a defined emission
22 capacity for heat radiation determined by the nature of the measuring element, wherein
23 the hotplate material has an adequate transmission for the heat radiation used for the
24 measurement; and
25 wherein said heat radiation is measured and from this measurement said
26 temperature of said measuring element is determined.

1 59-60. (Cancelled)